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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/841,318	04/30/97	HATAKEYAMA	K 1259-0191P-S

002292 LM02/0202
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EXAMINER

HARRINGTON, A

ART UNIT	PAPER NUMBER
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2712

DATE MAILED: 02/02/00

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No. 08/847,318 Applicant(s) Hata Keyama
Examiner HARRINGTON Group Art Unit 2712

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 11/22/99
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-7 and 9 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-7 and 9 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____ ☐ Interview Summary, PTO-413
- ☒ Notice of References Cited, PTO-892 ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948 ☐ Other _____

Office Action Summary

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DETAILED ACTION

Case serial number 08/841,318 has been transferred to Examiner Harrington's docket.

Response to Arguments

1. Applicant's arguments with respect to claims 1-7 and 9 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 U.S.C. § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iura et al (US 5,847, 756) in view of Sasaki (US 4,837,628) further in view of Sugihara (US 4,054,915).

Iura discloses a color video camera (see figures 2 and 3) with motion and still modes of operation with electronic display of motion and still pictures (depression of a shutter button : col. 12, lines 1-18) where a motion picture is interlaced two line additive scanned image data and a still picture also represent a form a interlace scanning where each field output of all even lines and all the odd line forms the still image data (one frame; col. 9, lines 1-51). Iura also discloses the still image data level is dependent upon the motion image data in the preceding motion image period by setting the exposure period for the still image data to be from 1.5 to 3 time as long as

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the motion image exposure period (col. 4, lines 42-62 and col. 5, lines 5-15 and col. 14, lines 7-19). Therefore, Iura teaches motion and still imaging for displaying images which mixed readouts charges in the motion mode and outputs all charges in the still mode (may also store still images). However, the Iura fails to specifically disclose the claimed color filter arrangement, interlaced “field shifting” additive readout, and outputting all pixel data in line sequential scanning. Although, a motion and still mode color camera which records still images and implement an art equivalent to line sequential scanning is well known in the art as taught by Sasaki.

In the same field of endeavor, Sasaki discloses upon a shutter release operation the still is recorded (see abstract and col. 6, lines 50- 55) where Sasaki also reads out all the pixel signal in the still image mode also by driving an interline transfer CCD to output each pixel in the array.. This driving is equivalent to sequential scanning of each line. Thus it would have been obvious to one of ordinary skill in the art that at the time the invention was made to modify Iura, as taught by Sasaki, such that a motion/still mode camera can store selected still image from the motion sequence for user selective/creative use at anytime. Additionally, Iura and Sasaki teach providing a high quality still image by using all the image data in the array but output the all the data using different driving method, and it would appear to be obvious to any one of ordinary skill in the art that either field readouts or line sequential scanning of all pixel charges would produce a quality still image, and the inclusion of either method is matter of design choice.

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Iura and Sasaki, as stated above, disclose color imaging systems. However, neither teach using a stripe color filter arrangement and interlaced claimed field shifting method. Although, it is well known in the art to include these features as taught by Sugihara.

Sugihara discloses a color camera which incorporates a column stripe color filter (see figure 3). Sugihara also discloses several interlace method used in color camera. One method comprises averaging signals of two adjacent lines of the same color during an even field (col. 9, lines 1-14) . Another method comprises an two line additive readout which uses the same pair of lines each field (col. 10, lines 49-67). And an interlace method, where different lines are added in each field (col. 11, lines 15-65) which is the claimed method. Thus, it would have been obvious to one of ordinary skill in the art to modify, Iura and Sasaki to use a stripe color filter, as taught by Sugihara, as such processing of color signals from column stripe filters is available to color cameras and provide a good resolution image. It would have been further, obvious to implement the claimed interlace method taught by Sugihara, int the systems of Iura and Sasaki, as it does not require any significant upgrade to processing circuitry that could increase the cost of the system and is an improved interlaced color method, as taught by Sugihara. Further, it would have been obvious to use the interlace method claimed on a column striped CCD, as the Examiner takes official Notice that interlace scanned CCD with color stripe filters exist in the art. Also same color additive interlacing is known in the art (and also taught by Sugihara) which can also be done in remapping signal processors or other signal processors. Therefore, it would also not require a significant upgrade in the color signal processing circuitry and requires on routine skill in the art

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to implement a color imaging system incorporating a stripe filter to output a picture with good resolution.

As for claim 2, see Examiners notes in claim 1.

As for claim 3, see Examiner notes in claim 2. Addition, Iura range is from 1.5 to 3 times the exposure (see cited columns in claim 1).

As for claim 4, Iura disclose changing the exposure in an embodiment. Iura also teaches that when image data level is to be changed, the gain of an amplifier and/or the exposure time is adjusted(col. 3, lines 10-15). Thus it would have been obvious to one of ordinary skill in the art , that instead of doubling the exposure time, the gain of the amplifier for the color signals could be double to increase the signal.

As for claim 5, see Examiner notes in claim 1. In addition, Iura discloses an embodiment were the motion image charge storage time is inherently updated because the CCD has an electronic shutter component (col. 15, lines 15-45 and col. 17, lines 1-15).

As for claim 6, see Examiner's notes in claim 5. In addition, Iura gives an example in col. 15, the exposure time of the still is three times as long. However, the exposure range is 1.5 to three times as long which means it could be twice as long.

4. Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iura (US 5,847,756).

As for claim 7, Iura discloses a color video camera (see figures 2 and 3) with motion and still modes of operation with electronic display of motion and still pictures (depression of a shutter

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button : col. 12, lines 1-18) where a motion picture is interlaced two line additive scanned image data and a still picture also represent a form a interlace scanning where each field output of all even lines and all the odd line forms the still image data (one frame; col. 9, lines 1-51). Iura also discloses the still image data level is dependent upon the motion image data in the preceding motion image period by setting the exposure period for the still image data to be from 1.5 to 3 time as long as the motion image exposure period (col. 4, lines 42-62 and col. 5, lines 5-15 and col. 14, lines 7-19) which can allows the luminance and balance of recorded still data to be set in the same range. The implementation of the exposure time is done by cooperation of the microcomputer which stores various data and electronic shutter control circuit. The microcomputer sends shutter control signals to the electronic shutter control circuit. Although not specifically disclosed by Iura, it would have been matter of common sense, that a storage time calculated/determined(col. 20, lines 1-16) by the last electronic shutter signal and sent by way of control signal to the shutter control circuit to the CCD is held/stored/memorized (i.e. in a memory) by the microcomputer.

As for claim 9, Iura discloses a color video camera (see figures 2 and 3) with motion and still modes of operation with electronic display of motion and still pictures (depression of a shutter button; col. 12, lines 1-18) where a motion picture is interlaced two line additive scanned image data and a still picture also represent a form a interlace scanning where each field output of all even lines and all the odd line forms the still image data (one frame; col. 9, lines 1-51). Iura also discloses the still image data level is dependent upon the motion image data in the preceding

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motion image period by setting the exposure period for the still image data to be from 1.5 to 3 time as long as the motion image exposure period (col. 4, lines 42-62 and col. 5, lines 5-15 and col. 14, lines 7-19) which can allows the luminance and balance of recorded still data to be set in the same range. . Although, Iura disclose changing the exposure in an embodiment. Iura also teaches that when image data level is to be changed, the gain of an amplifier and/or the exposure time is adjusted(col. 3, lines 10-15). Thus it would have been obvious to one of ordinary skill in the art , that instead of doubling the exposure time, the gain of the amplifier for the color signals could be double to increase the signal.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Parulski et al (US 5,828,406) discloses motion and still camera.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Harrington whose telephone number is (703) 308-9295. The examiner can normally be reached on Tuesday to Friday from 9:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor, Wendy Garber, can be reached on (703) 305-4929.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 308-6306, (for formal communications intended for entry)

Or:

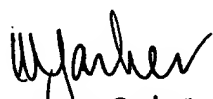
(703) 308-6296 (for informal or draft communication, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

AMH:



January 28, 2000



Wendy Garber
Supervisory Patent Examiner
Technology Center 2700